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INDIA METEOROLOGICAL DEPARTMENT
Climate Research and Services (CRS)

Climate Summary for the month of April 2022

1. Monthly Rainfall Scenario (01 to 30 April, 2022)

Rainfall over the country as a whole for the month of April 2022 shows that it has recorded 38.4 mm, which is 2% less than its Long Period Average (LPA) of 39.3 mm.

Rainfall over Northwest India (5.6 mm) was 3rd lowest since 1901 after the years 1947 (1.8 mm) and 1954 (4.4 mm). Rainfall over Sub-Himalayan West Bengal & Sikkim (236.8 mm) was third highest since 1901 after the year 1949 (259.9 mm) and 1925 (243.4 mm).

The monthly rainfall for April 2022 is given in the table below:

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
Country as a whole	38.4	39.3	-2
Northwest India	5.6	31.9	-82
Central India	4.0	9.0	-55
South Peninsula	45.6	33.4	37
East & northeast India	165	124.8	32

During this month, 9 sub-divisions received large excess, 1 excess, 1 normal, 5 deficient rainfall, 18 large deficient and 2 sub-divisions not received rainfall.

The observed spatial rainfall, normal rainfall (Averaged over 1961 to 2010) and its departures from normal for the month of April 2022 is given in Figure 1.

RAINFALL OVER THE COUNTRY FOR APRIL 2022

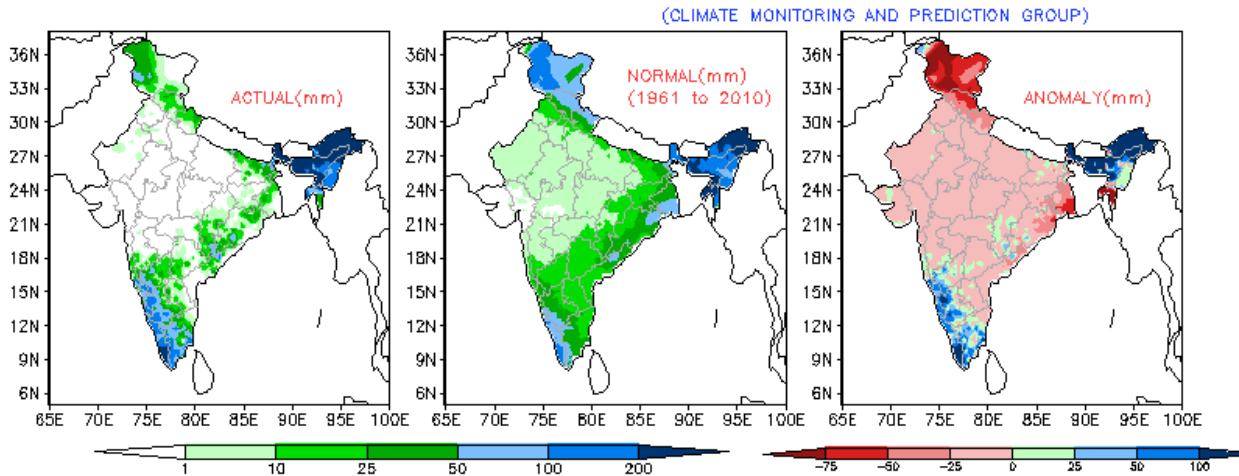


Fig 1: Observed spatial Rainfall pattern for the month of April 2022 over India and their departure from normal (1961 to 2010 period)

2. Frequency of Heavy Rainfall events

The April 2022 witnessed extremely heavy rainfall, very heavy rainfall and heavy rainfall events. Heavy rainfall events occurred mainly over some stations of south peninsular India and northeast India.

The location of occurrences of extremely heavy rainfall, heavy rainfall and heavy rainfall events is shown in the Figure 2. Out of total 103 stations, 3 stations reported extremely heavy rainfall (≥ 204.5 mm), 20 station reported very heavy rainfall (115.6 to 204.4 mm) and 80 stations reported heavy rainfall (64.5 to 115.5 mm of rainfall) during this month.

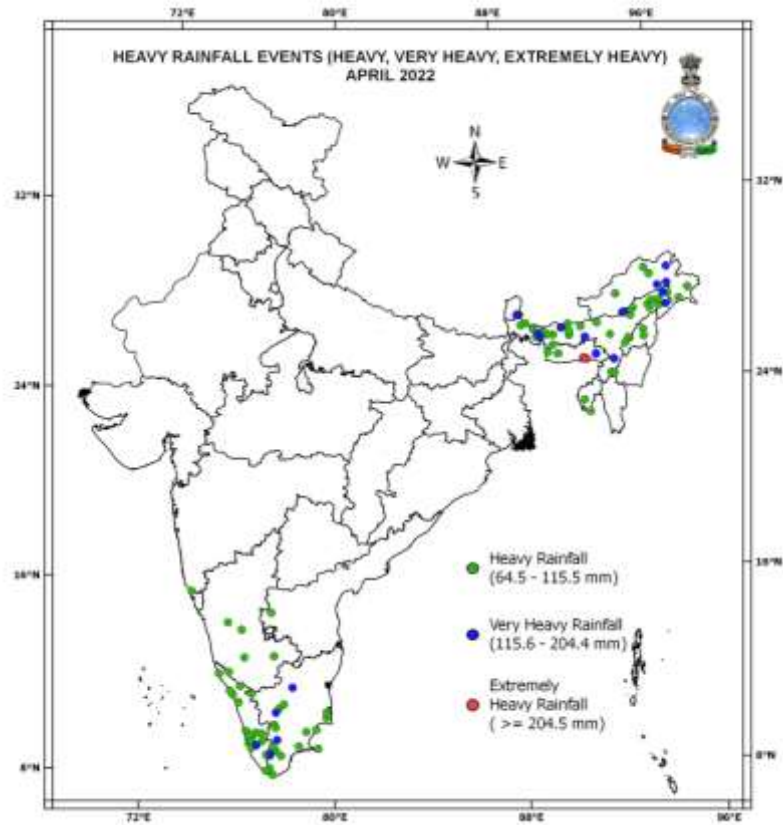


Fig 2: The location of occurrences of heavy rainfall events in the month of April 2022.

Some stations received record rainfall (24 hour) during this month. The table below shows stations received 24-hour record rainfall and its previous record.

STATION	NEW RECORD RAINFALL (mm)*	DATE (APRIL 2022)	PREVIOUS RAINFALL RECORD(mm)	DD-MM-YYYY
ITANAGAR	166.6	24	77.8	21-04-2016
MAWSYNRAM	401.8	4	361.8	28-04-1977

*Based on real time available data

3. Characteristics of Temperatures for the month of April 2022

The observed average maximum, average minimum and mean temperatures for the country as a whole during April 2022 are 35.30°C, 23.51°C and 29.41°C respectively, against the normal of 33.94°C, 22.15°C and 28.04°C based on period 1981-2010. Thus, the average maximum, average minimum temperature and mean temperature are above normal by 1.36°C, 1.36°C, 1.36°C respectively for the country as a whole. The climatological data based on the period of 1981 to 2010 are used to calculate the normal and hence the anomaly (Actual average temperature in 2022 - normal temperature based on data of 1981-2010). Figure 3 shows time series of monthly average maximum, average minimum and mean temperature over all India for the month of April during 1901-2022. It shows over the country as a whole during April, the average maximum temperature is third highest with 35.30 °C after the years 2010(35.42 °C), 2016(35.32 °C) since 1901 and mean temperature is second highest

with 29.41 °C after the year 2010(29.48 °C) since 1901. The average minimum temperature is also second highest 23.51°C after the year 2010(23.54 °C) since 1901. The temperatures during April 2022 for all India and homogeneous regions with its ranks since 1901 is given in table 2 and the five extremes for temperature along with year occurrence is given in table 3.

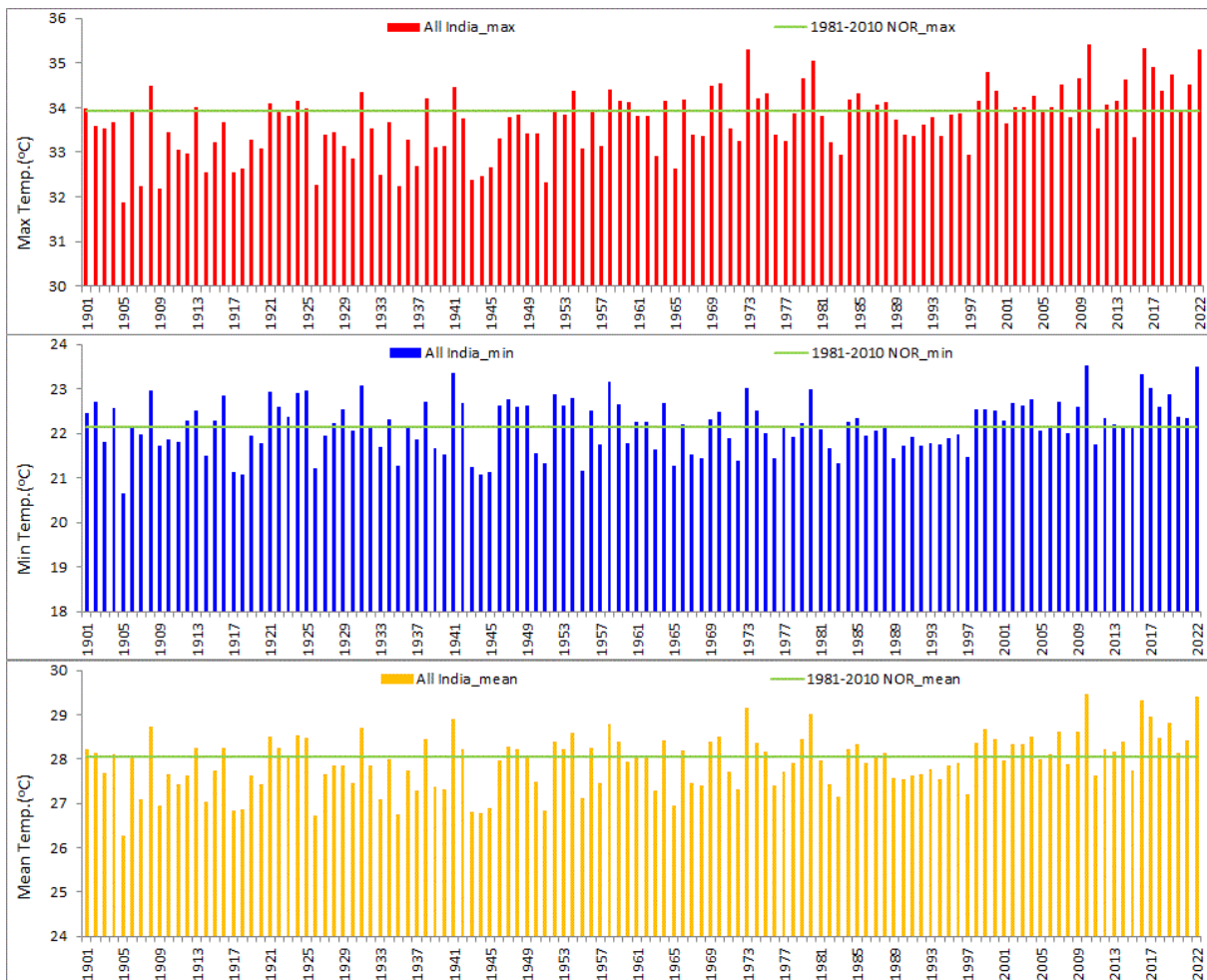


Fig 3: Time series of monthly average maximum, average minimum and mean temperature over all India for the month of April during 1901-2022.

Figure 4 shows time series of monthly average maximum, average minimum and mean temperature over Northwest India for the month of April during 1901-2022. Over Northwest India during April, the average maximum temperature is ever highest with 36.32 °C in last 122 years for the period 1901-2022 and it broken the earlier ever highest record of 35.4 °C which was in 2010 for the month of the April for the same period. The average mean temperature is ever highest with 28.18 °C since 1901 and it broken the earlier ever highest record of 27.79 °C which was in 2010 for the month of the April for the same period and minimum temperature is second highest 20.04°C after the year 2010 (20.18 °C) since 1901.

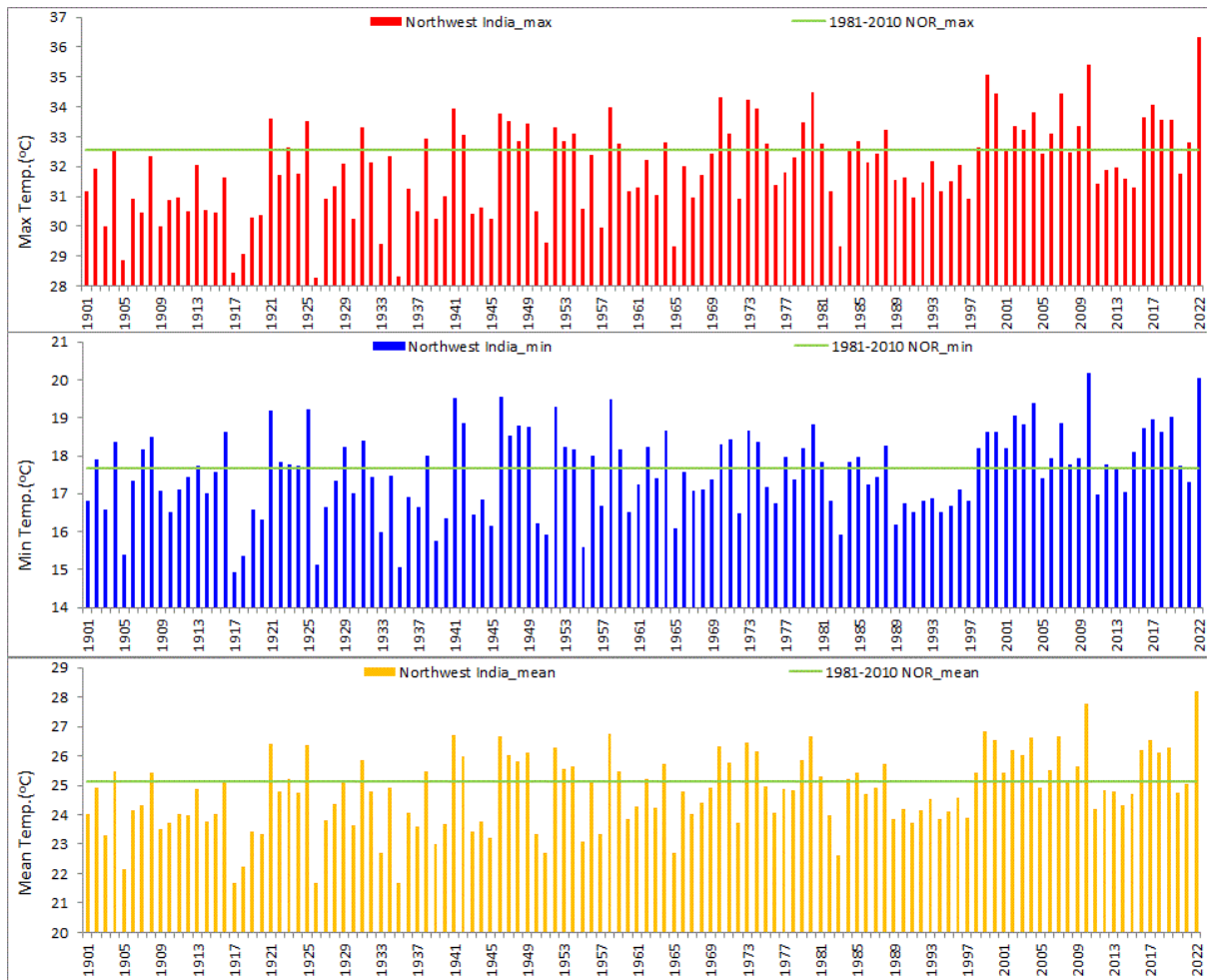


Fig 4: Time series of monthly average maximum, average minimum and mean temperature over Northwest India for the month of April during 1901-2022.

Figure 5 shows time series of monthly average maximum, average minimum and mean temperature over Central India for the month of April during 1901-2022. Over Central India during April, the average maximum temperature is ever highest with 38.04 °C in last 122 years for the period 1901-2022 and it broken the earlier ever highest record of 37.75 °C which was in 1973 for the month of the April for the same period. The average mean temperature is ever highest with 31.35 °C in last 122 years for the period 1901-2022 and it broken the earlier ever highest record of 31.10 °C which was in 2010 for the month of the April for the same period. The average minimum temperature is ever highest with 24.66 °C in last 122 years for the period 1901-2022 and it broken the earlier ever highest record of 24.52 °C which was in 2010 for the month of the April for the same period.

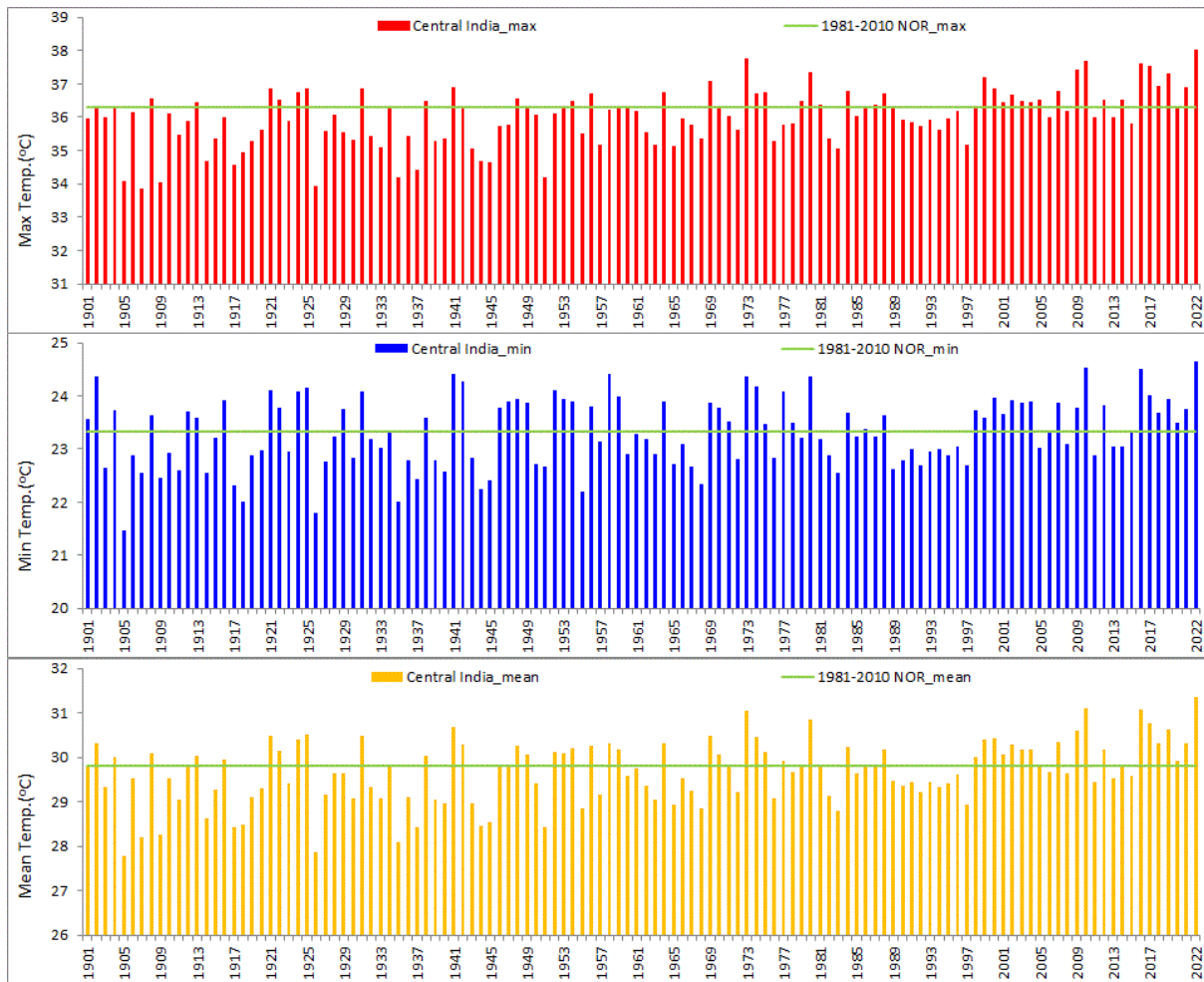


Fig 5: Time series of monthly average maximum, average minimum and mean temperature over Central India for the month of April during 1901-2022.

Figure 6 shows time series of monthly average minimum temperature over East & Northeast India for the month of April during 1901-2022. Over East & Northeast India during April, the average minimum temperature is third highest with 21.94 °C since 1901 (for 1st highest to 2nd highest pls refer table 3).

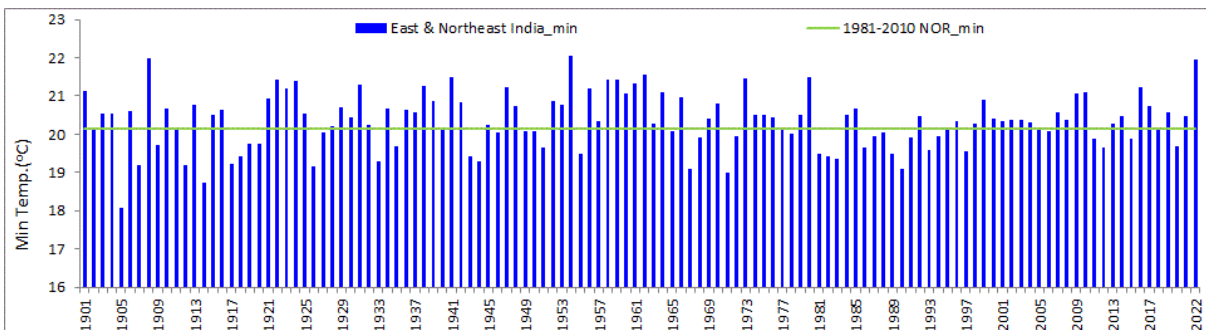


Fig 6: Time series of monthly average minimum temperature over East & Northeast India for the month of April during 1901-2022.

APR 2022		Max Temp (°C)	Min Temp (°C)	Mean Temp (°C)
ALL INDIA	ACTUAL	35.30	23.51	29.41
	NORMAL	33.94	22.15	28.04
	ANOMALY	1.36	1.36	1.36
	TOP RANK	3	2	2
NORTHWEST INDIA	ACTUAL	36.32	20.04	28.18
	NORMAL	32.54	17.69	25.11
	ANOMALY	3.78	2.36	3.07
	TOP RANK	1	2	1
EAST & NORTHEAST INDIA	ACTUAL	31.93	21.94	26.94
	NORMAL	31.99	20.13	26.06
	ANOMALY	-0.06	1.81	0.87
	TOP RANK	79	3	32
CENTRAL INDIA	ACTUAL	38.04	24.66	31.35
	NORMAL	36.29	23.32	29.81
	ANOMALY	1.75	1.34	1.54
	TOP RANK	1	1	1
SOUTH PENINSULAR INDIA	ACTUAL	34.42	25.68	30.05
	NORMAL	34.26	25.18	29.72
	ANOMALY	0.17	0.50	0.33
	TOP RANK	22	15	17

Table2: The Temperatures during April 2022 for all India and homogeneous regions with its ranks since 1901 are given below;

All India (April 2022)					Northwest India (April2022)					Central India (April 2022)				
Year	TMax	Normal	Anomaly	Rank	Year	TMax	Normal	Anomaly	Rank	Year	TMax	Normal	Anomaly	Rank
2010	35.42	33.94	1.483	1	2022	36.32	32.54	3.78	1	2022	38.04	36.29	1.75	1
2016	35.32		1.384	2	2010	35.40		2.85	2	1973	37.75		1.45	2
2022	35.30		1.365	3	1999	35.06		2.52	3	2010	37.67		1.38	3
1973	35.30		1.361	4	1980	34.50		1.96	4	2016	37.62		1.32	4
1980	35.04		1.103	5	2007	34.46		1.91	5	2017	37.53		1.23	5

All India (April 2022)					Northwest India (April2022)					Central India (April 2022)				
Year	TMin	Normal	Anomaly	Rank	Year	TMin	Normal	Anomaly	Rank	Year	TMin	Normal	Anomaly	Rank
2010	23.54	22.15	1.39	1	2010	20.18	17.69	2.50	1	2022	24.66	23.32	1.34	1
2022	23.51		1.36	2	2022	20.04		2.36	2	2010	24.52		1.20	2
1941	23.34		1.20	3	1946	19.54		1.85	3	2016	24.51		1.19	3
2016	23.33		1.18	4	1941	19.52		1.83	4	1941	24.42		1.10	4
1958	23.15		1.00	5	1958	19.50		1.81	5	1958	24.41		1.089	5

All India (April 2022)					Northwest India (April2022)					Central India (April 2022)				
Year	TMean	Normal	Anomaly	Rank	Year	TMean	Normal	Anomaly	Rank	Year	TMean	Normal	Anomaly	Rank
2010	29.48	28.04	1.44	1	2022	28.18	25.11	3.07	1	2022	31.35	29.81	1.54	1
2022	29.41		1.36	2	2010	27.79		2.68	2	2010	31.10		1.29	2
2016	29.32		1.28	3	1999	26.85		1.73	3	2016	31.06		1.25	3
1973	29.16		1.12	4	1958	26.75		1.63	4	1973	31.05		1.24	4
1980	29.02		0.97	5	1941	26.72		1.61	5	1980	30.85		1.05	5

East & Northeast India (April 2022)				
Year	TMin	Normal	Anomaly	Rank
1954	22.05	20.13	1.92	1
1908	21.99		1.86	2
2022	21.94		1.81	3
1962	21.57		1.43	4
1980	21.51		1.37	5

Table3: The five highest temperature records with corresponding ranks since 1901 along with year occurrence for all India, Northwest India, Central India (TMean, TMax, TMin) and for East & Northeast India (TMin) are given in the table below;

The observed spatial temperature pattern of monthly average maximum, average minimum and mean temperature over India and their departures from normal (1981 to 2010 period) for the month of April 2022 is given in Figure 7.

TEMPERATURE & ITS ANOMOLY FOR THE MONTH APRIL 2022

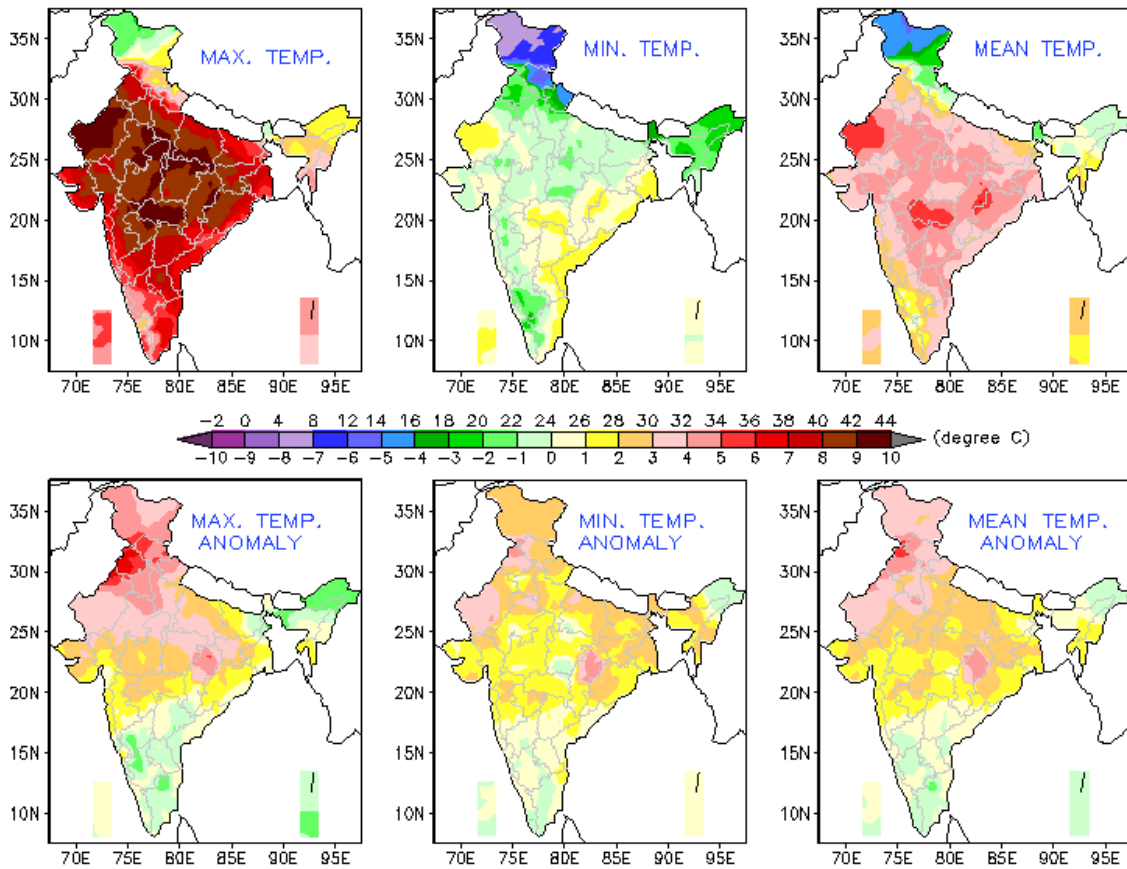


Fig 7: Observed spatial temperature pattern of monthly average maximum, average minimum, and mean temperature over India (top three from left to right) and their departure from normal (1981 to 2010 period) for April 2022 (lower three from left to right).

Some stations reported record (highest) temperature during this month. The table below shows stations reported highest temperature and its previous record.

STATION NAME	NEW RECORD (°C)*	DATE (APR 2022)	PREVIOUS RECORD (°C)	DD/MM/YYYY
Gopalpur	37.8 @	22	37.8	12-04-1994
Daltonganj	46	30	45.6	30-04-2009
Motihari	41.5	6	41.4	16-04-1973
Allahabad AP	46.8	29	46.6	30-04-1999
Jhansi	46.2 @	29	46.2	17-04-2010
Lucknow AP	45.1	29	45	30-04-1999
Ferozepur	43.7	28	43.4	27-04-1970
Dharamsala	36.2	30	35.6	18-04-2010
Alwar	45.8	8	45.1	28-04-1979
Jaisalmer	45.9	30	45.8	29-04-2009
Pachmarhi	39.8	21	38.9	27-04-1970
Ratlam	45.0	28	44.9	29-04-2009
Madikeri	34.8	20	34.2	07-04-1998
Minicoy	35 @	28	35	21-04-1993

* Based on real time available data

@ Equals previous record

4. Significant Weather Events for the month of April 2022:

During April, total 54 persons reportedly claimed dead, 72 persons injured & 9 livestock perished. The details of casualties given below, which are based on real time media reports.

Thunderstorm/Lightning: Total 12 persons reportedly claimed dead, 17 persons injured & 3 livestock perished, during the month due to Lightning. The details of the area effected by the events are summarized and given in the table below;

DATE	DEATH	INJURED	MISSING	LIVESTOCK	DISTRICT (STATE) AFFECTED
6 Apr.	2	4			Nashik (Maharashtra)
8 Apr.	2	12			Seoni (Madhya Pradesh)
14,17 & 29 Apr.	5	1		3	Dhemaji, Dhubri, Dibrugarh, Goalpara, Jorhat, Kokrajhar (Assam)
16 Apr.	3				Gadag (Karnataka)

Thunderstorm: Total 29 persons reportedly claimed dead, 53 persons injured & 6 livestock perished, during the month due to Thunderstorm. The details of the area effected by the events are summarized and given in the table below;

DATE	DEATH	INJURED	MISSING	LIVESTOCK	DISTRICT (STATE) AFFECTED
14 to 29 Apr.	25	2		6	Baksa, Barpeta, Bongaigaon, Chirang, Dibrugarh, Goalpara, Jorhat, Morigaon, Nagaon, Sonitpur, Tinsukia (Assam)
22 Apr.	2	1			Pune (Maharashtra)
17 Apr.	2	50			Cooch Behar (West Bengal)

Floods, Heavy Rains & Landslide: Total 6 persons reportedly claimed dead & 2 persons injured, during the month due to Floods, Heavy Rains & Landslide. The details of the area effected by the events are summarized and given in the table below;

DATE	DEATH	INJURED	DISTRICT (STATE) AFFECTED
4 Apr.	2 (Landslide)	1	East Khasi Hills (Meghalaya)
14 Apr.	1 (Hvy Rain)		Bangalore Urban (Karnataka)
17 Apr.	3 (Landslide)	1	Kurung Kumey (Arunachal Pradesh)

Heat Wave: Total 7 persons reportedly claimed dead from 1st to 6th April and on 26th April due to Heat Wave at Jalgaon, Nagpur and Nashik districts of Maharashtra State.

Figure No.8 shows deaths due to significant weather events during the month. (Based on real time media reports).

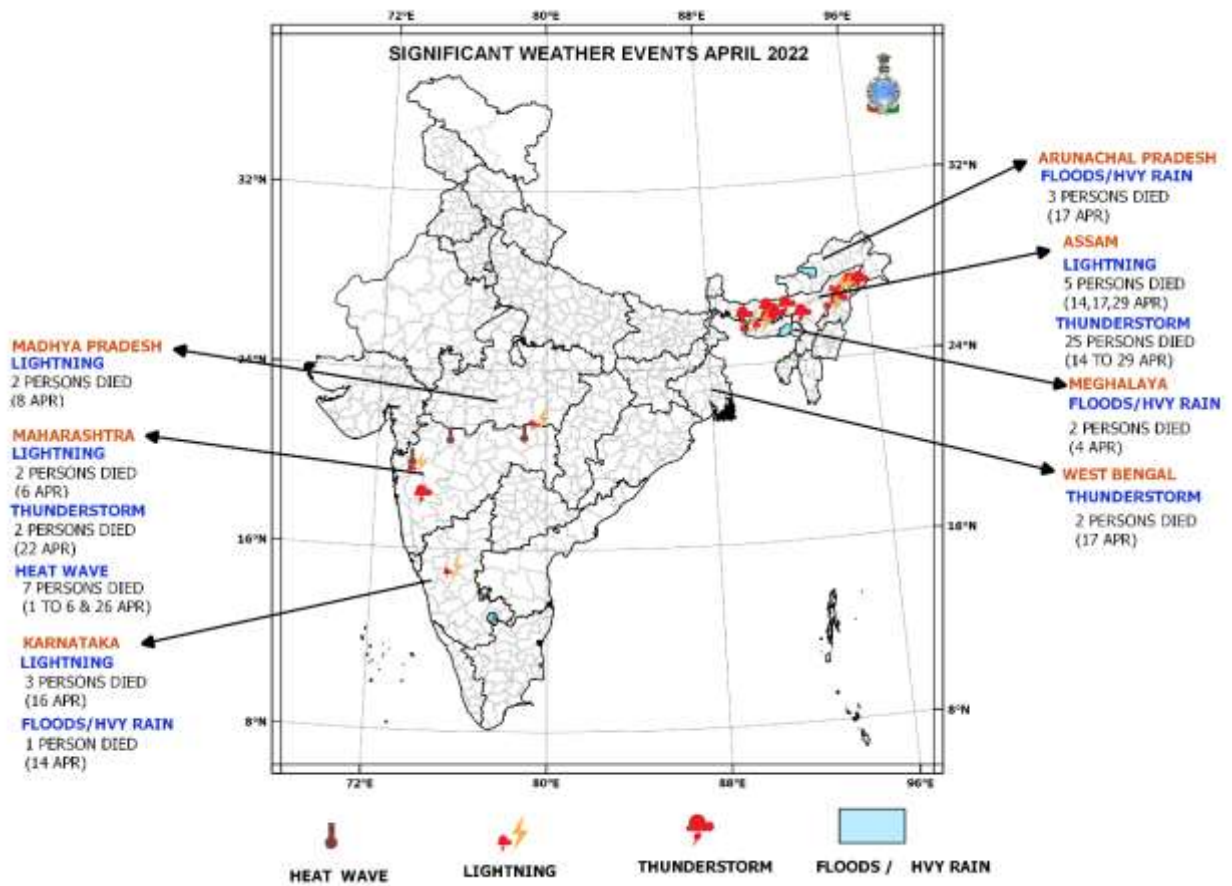


Fig 8: Significant weather events during April 2022 (Based on real-time media report)